ABSTRACT OF THE DISCLOSURE

A file system maintains a series of read-only snapshot copies of a production file system. A read-write snapshot copy is created based on a selected read-only snapshot copy by maintaining a set of save volume blocks of new data of the read-write snapshot copy. A block of new data is written to the read-write snapshot copy by allocating a save volume block and writing to the save volume block. A specified block is read from the read-write snapshot copy by checking whether there is a respective save volume block allocated to the specified block, and if so, reading from the respective save volume block, and if not, reading from the read-only snapshot copy upon which the read-write snapshot copy is based. The read-write snapshot copy can be refreshed with a specified read-only snapshot copy. The production file can be restored with a specified read-write snapshot copy.

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